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ABSTRACT

In high-temperature superconductor arrangements having a superconductor 1 and having an electrical bypass 2, their thermal coefficients of expansion α_{SC}, α_{BP} are chosen such that the bypass applies compressive pressure to the superconductor. According to the invention, this situation occurs even when there is a considerable temperature difference ΔT between the bypass and the superconductor, as can be induced by fault currents in the case of current limiters. The thermomechanical compressive pressure prevents the formation or enlargement of cracks in the superconductor. The bypass is preferably made of steel, and is soldered or bonded onto the superconductor with a force fit.

Figure 1